

INTERIM WATERCOURSE IMPROVEMENTS POLICY

For purposes of this policy, watercourse shall be defined to mean the bed, banks, and immediate adjacent vegetation associated with the water carrying area.

Consistent with Watercourse Improvement Policy elements of the Tucson General Plan and Floodplain Ordinance it shall be the policy and intent of the City of Tucson that:

1. A comprehensive stormwater management program be established, policies developed, and individual basin management plans prepared.
2. When planning and designing developments adjacent to, surrounding, or affected by watercourses, the planner/designer shall conform to policies set forth in the adopted Tucson General Plan, existing basin management plans, and the Floodplain Ordinance. In those areas where basin management plans have not yet been established, emphasis will be placed on earthen or naturally appearing channels with landscaping and texture/color added to bank protection materials. The design of earthen channels WITHOUT BANK PROTECTION will be encouraged in order to allow for the reintroduction of native plant species such as mesquite and palo verde; and once re-established, it will be City policy that native vegetation in these channels will not be removed during routine maintenance.
3. Pending establishment of the Tucson Stormwater Management Plan the first consideration in approaching alternative drainage design concepts shall be to maintain the natural watercourse configuration through innovative and creative designs. Where natural washes cannot be maintained, LINED CHANNEL mitigation plan shall be established that allows for aesthetic treatments of the watercourse sensitive to the environment, and conducive to wildlife habitat. Whenever channelization is needed, both environmental and visual mitigation measures must be implemented, such as landscaping and adding texture/color to the bank-protection materials. Landscaping or structural screening shall be provided when channelization occurs adjacent to a roadway.
4. At times, structural solutions to drainage problems will be required. While improvements to watercourses should be responsive to the environment and address social concerns, existing conditions may prevent to inhibit the desired approach. Examples of such existing conditions include: insufficient right of way, insufficient runoff-carrying capacity in the channel, large erosion potential, existing residences or businesses exposed to flooding during runoff events, and inadequate all weather access. When structural solutions are necessary preference shall be given to landscaped natural-appearing channels.
5. Major watercourses and their adjoining access/maintenance easements should include space for continuous and interconnected active and passive recreational activities.
6. Any proposed encroachment/use/bank protection should not preclude access to regional trail systems or public use areas and shall not disrupt important wildlife movement corridors. (Refer to Shaw's map on "Critical and Sensitive Habitats of Eastern Pima County". August, 1986).

When structural solutions are necessary the following solutions shall be considered:

- A. LOW FLOW, LOW VELOCITY WATERCOURSES, APPROXIMATING A FLOW RATE OF LESS THAN 500 CUBIC FEET PER SECOND, OR HAVING A VELOCITY OF LESS THAN 5 FEET PER SECOND
 - 1. varying slope and contours with enhanced vegetation
 - 2. enhanced plantings simulating the riparian habitat
 - 3. retained, terraced banks with planting areas
 - 4. reduction of flows through detention/retention
 - 5. articulated revetment units
 - 6. all improvements for higher rated watercourse

- B. MEDIUM WATERCOURSES, APPROXIMATING A FLOW RATE OF BETWEEN 500 AND 2,000 CUBIC FEET PER SECOND, OR HAVING A VELOCITY OF BETWEEN 5 AND 10 FEET PER SECOND
 - 1. retained terraced banks with plantings
 - 2. reduction of flows through detention/retention
 - 3. compound channels
 - 4. engineered dumped rip-rap (use of native, local rock is preferred)
 - 5. rip-rap overlaid with soil and revegetated
 - 6. gabions (including gabions overlaid with soil and revegetated)
 - 7. rock veneer over concrete bank protection
 - 8. textured, non smooth surfaces, carved concrete, sand blasted concrete/shotcrete/gunite
 - 9. colored concrete, simulating naturally occurring materials and soil tones
 - 10. all improvements for higher rated watercourses

- C. HIGH FLOW WATERCOURSES, HAVING A FLOW RATE OF OVER 2000 CUBIC FEET PER SECOND, OR HAVING A VELOCITY OF 10 OR MORE FEET PER SECOND
 - 1. reduction of flows through detention/retention
 - 2. compound channels
 - 3. gabions
 - 4. colored concrete, simulating naturally occurring materials and soil tones
 - 5. soil cement
 - 6. reinforced concrete
 - 7. combinations of above
 - 8. other solutions acceptable to the City Engineer

All mitigation plans for watercourse improvements, whether public or private, shall be approved by the City Engineer.

Alternative plans for watercourse improvements not mentioned above may be approved on a case by case basis by the City Engineer.